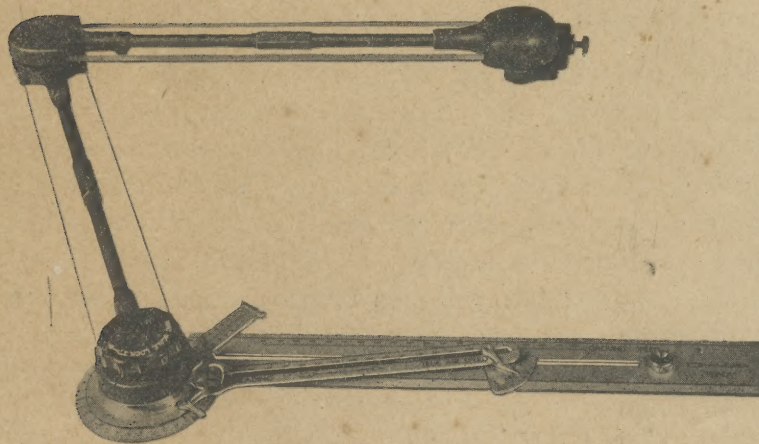# INSTRUCTIONS FOR
INSTALLATION, OPERATION & MAINTENANCE
STAR WATCH CASE CO.
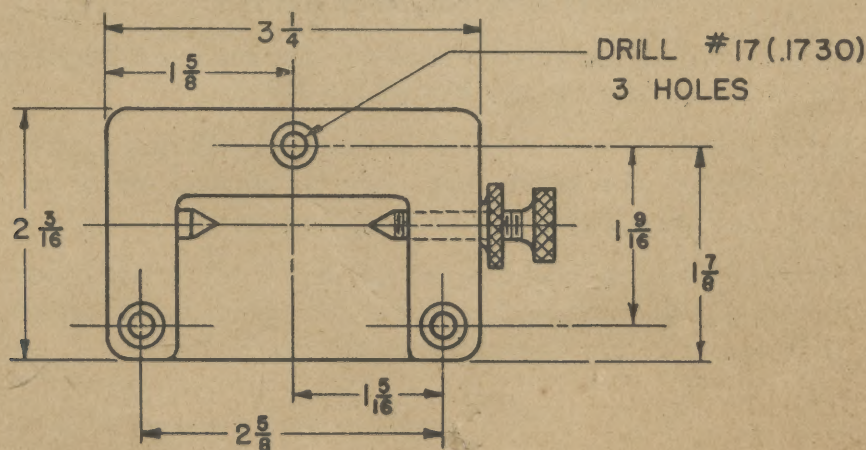## MACHINE, VECTOR PLOTTING
AN-5748 F. S. S. C. 88-M-58

INSTALLATION

Attach Anchor Base No. 145 near the left rear corner of the chart table by means of three No. 8 wood screws. Align countersunk holes in Pivot Plate No. 141-A with the Set Screw No. 147 and Pivot Stud No. 146. A light running fit is desirable. This attaches the Plotter to the Anchor Base. Next the Plotter should be moved to various positions on the chart table and the height of the Lower Elbow Bracket No. 131 above the table should be checked. This height should be uniform and about one half inch above the table. Any large variation indicates a warped table. If this is the case, the Anchor Base may be shimmed up with one or two pieces of thin wood or cardboard and re-tightened until this variation disappears.

If position of Protractor Lock Nut No. 187 does not suit the navigator, it may be changed as follows:

Loosen the lower band by first loosening Lower Bracket Screw No. 133, then turning Lower Arm No. 127 in a counter-clockwise direction, then rotate Protractor Head until a favorable position of the Lock Screw is obtained. Arm No. 127 is then tightened until band is moderately tight and will emit a low pitched hum when struck with fingers. Do not tighten bands excessively.

OPERATION

After Plotter has been properly secured to chart table, the Protractor No. 185 is oriented to map or chart as follows:

Loosen all locks, Wind Scale Lock No. 189, Heading Lock No. 186, Protractor Lock No. 187 and Airspeed Lock No. 181. This is done by turning them in a counter-clockwise direction. Set zero on Wind Scale No. 166, tangent to edge of Protractor Dial No. 185 and lock in position by a clockwise turn on Handle No. 189. Drift Angle Pointer No. 168 should now read zero on No. 167 Drift Protractor. Set zero on Protractor No. 185 opposite Heading Index on Air Speed Scale No. 165. Tighten No. 186 Heading Lock Nut. Now place edge of Ground Speed Scale No. 175 in line with North-South axis of map's compass rose, the Protractor zero at North. Lock Protractor by turning Protractor Lock Nut No. 187 in clockwise direction. Loosen Heading Lock No. 186.

Track may be read in degrees azimuth at the Protractor index mark when the wind velocity is set to zero on Wind Scale No. 166. After the Wind Scale Lock has been loosened, adjust Wind Scale No. 166 to correct wind velocity by pulling it away from center of the head until the correct wind velocity graduation is tangent to the rim on the Protractor and rotating the Wind Scale until its center line is directly beneath the desired Protractor graduation.

If the wind velocity and direction, track and true air speed are given, and it is required to find the Heading, Ground Speed and Drift Angle, the following procedure should be employed:

Orientate Protractor to map or chart in manner described above, unlock Wind Scale, adjust and lock Wind Scale to given velocity and direction. Set and lock Pointer to given true air speed. Place straight edge on Ground Speed Scale on given track and lock heading. Read heading in degrees azimuth at Protractor index mark; the Pointer will indicate Ground Speed in units per hour and degrees of right or left drift are indicated on the Drift Protractor. When not in use Protractor Head is secured to Anchor by placing hole in Wind Scale No. 166 over Pivot Plate Pin No. 141-B and Lock Handle No. 189.

MAINTENANCE AND REPAIR

All ball bearings used are of the double sealed type, made of Beryllium copper and should require no attention during the life of the Plotter.

To remove or install Bands, loosen Bracket Screws No. 133 and loosen Arms No. 127 and 128 as far as possible. The Bands may then be slipped off or on to the proper Pulleys. The Bands are then tightened as described above.

The Bands are made of K-Monel and are not subject to corrosion. Bands and pulley grooves should be wiped off periodically to prevent inclusion of erasure crumbs and foreign matter that would impair the accuracy of the Plotter.